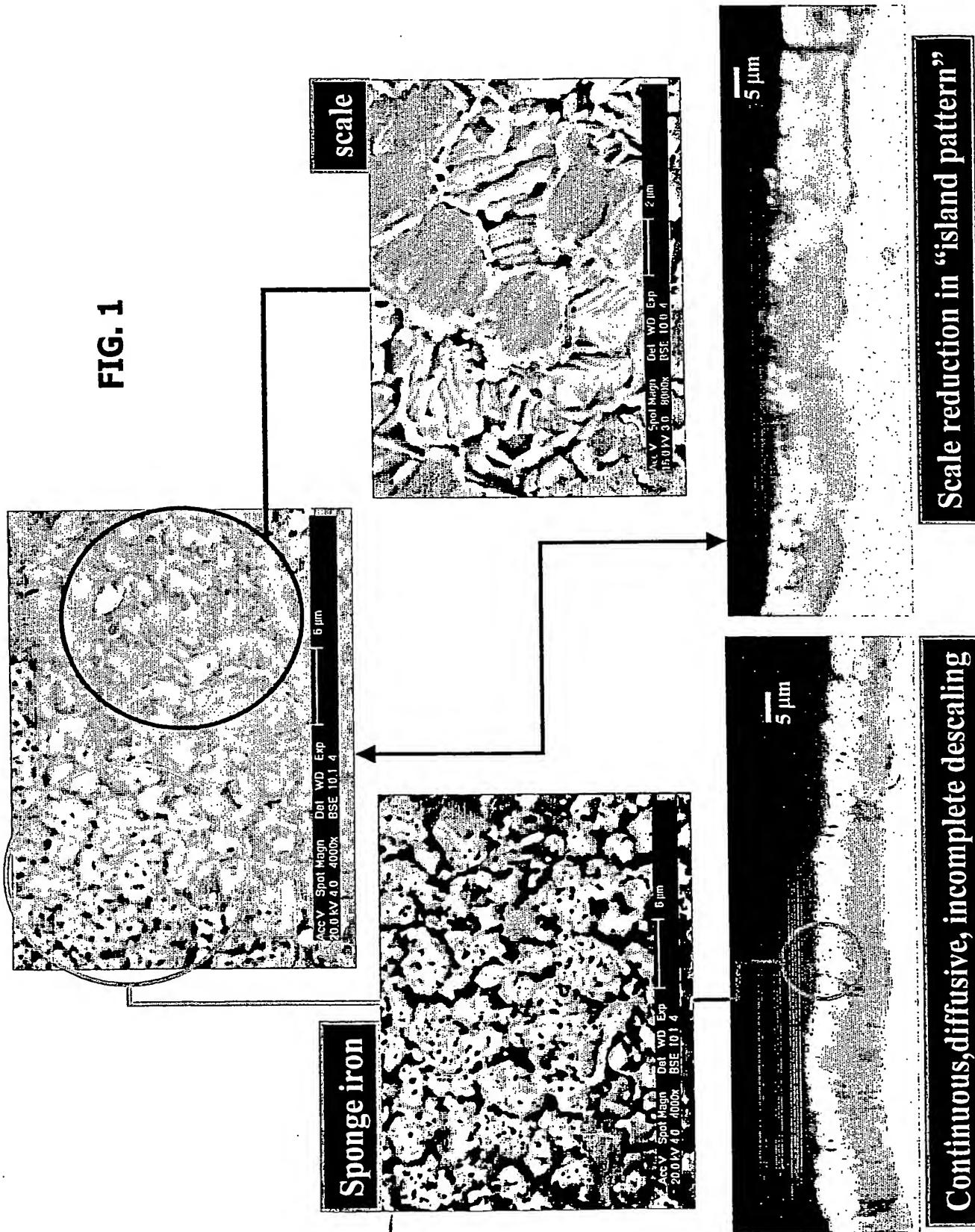
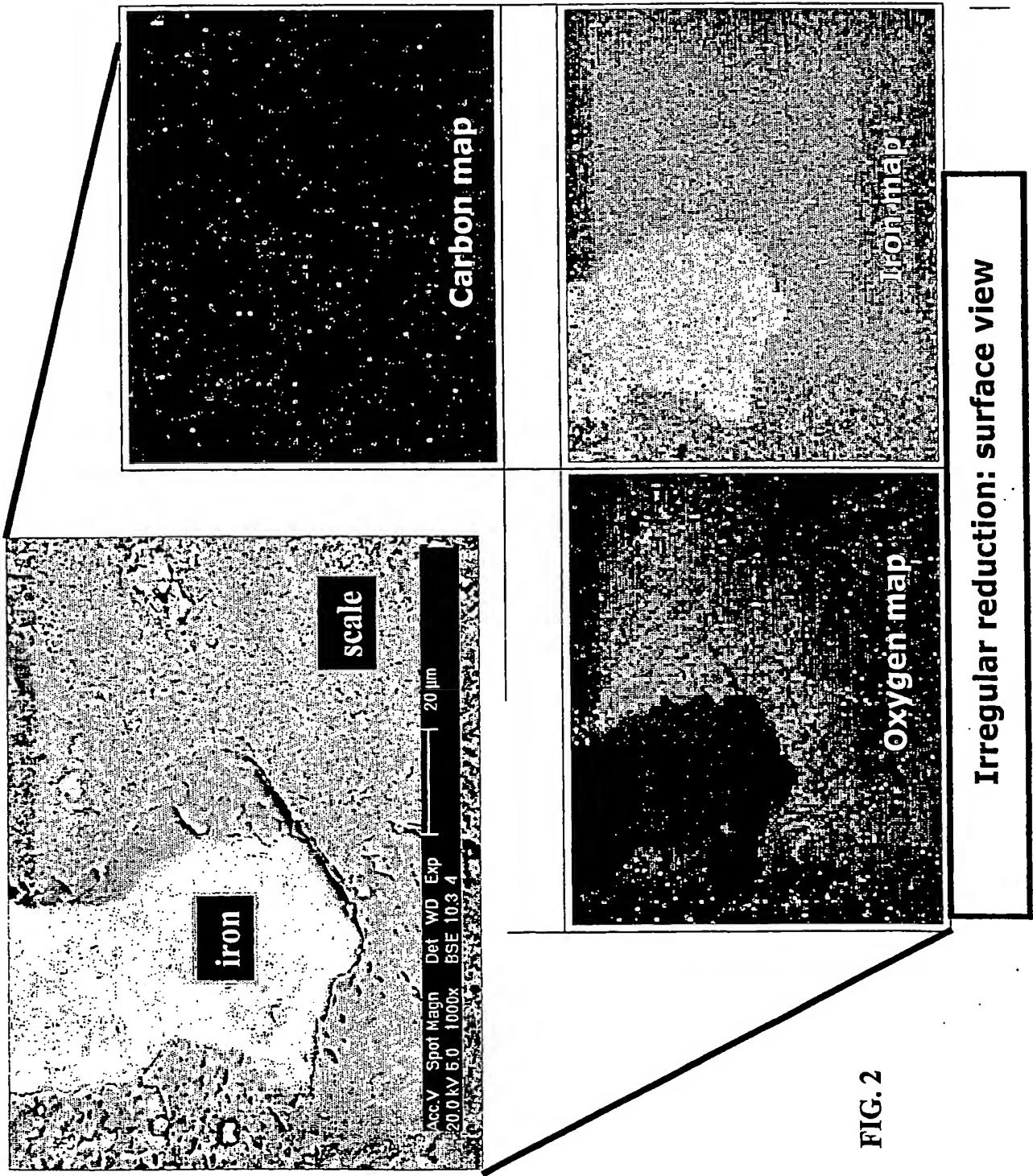
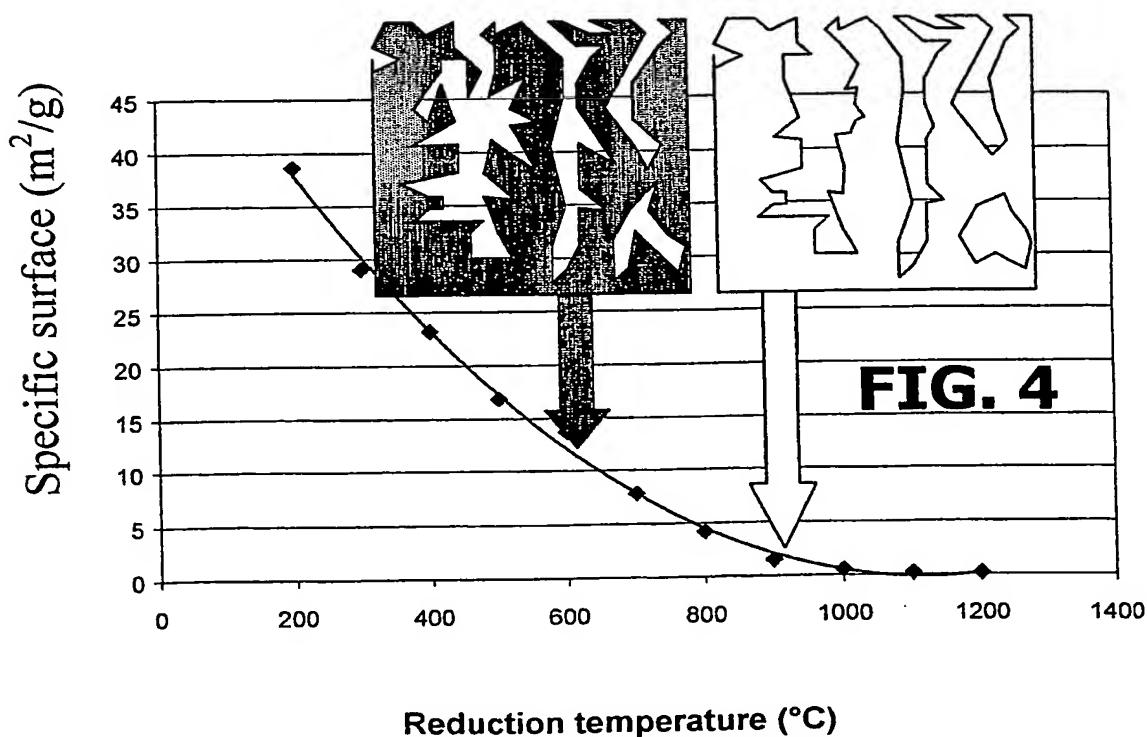
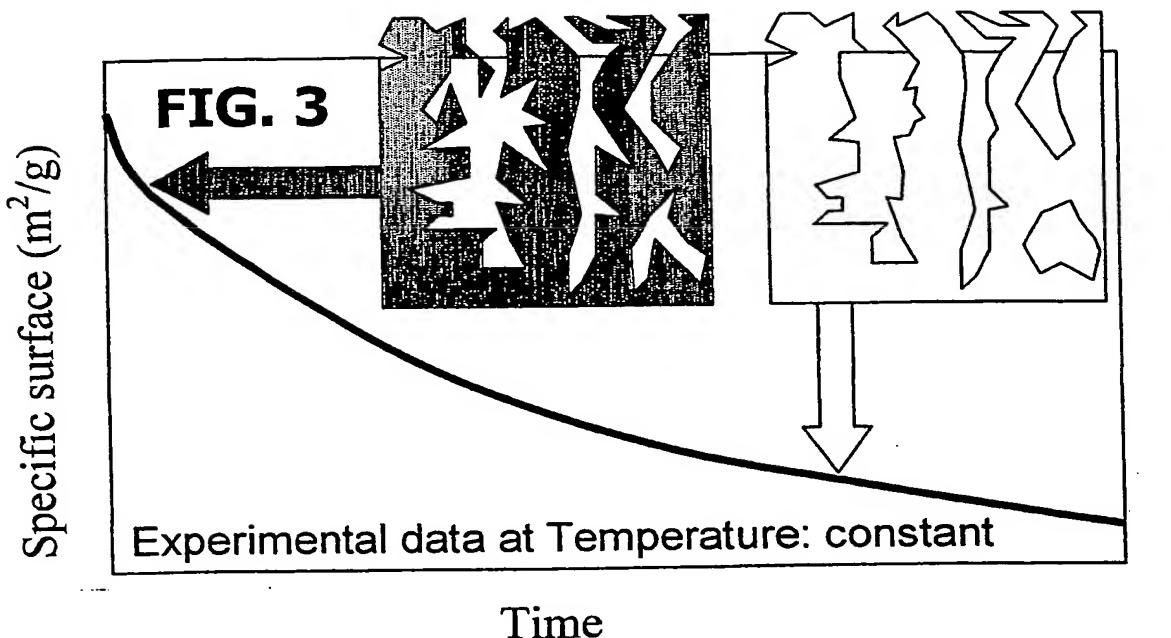


FIG. 1

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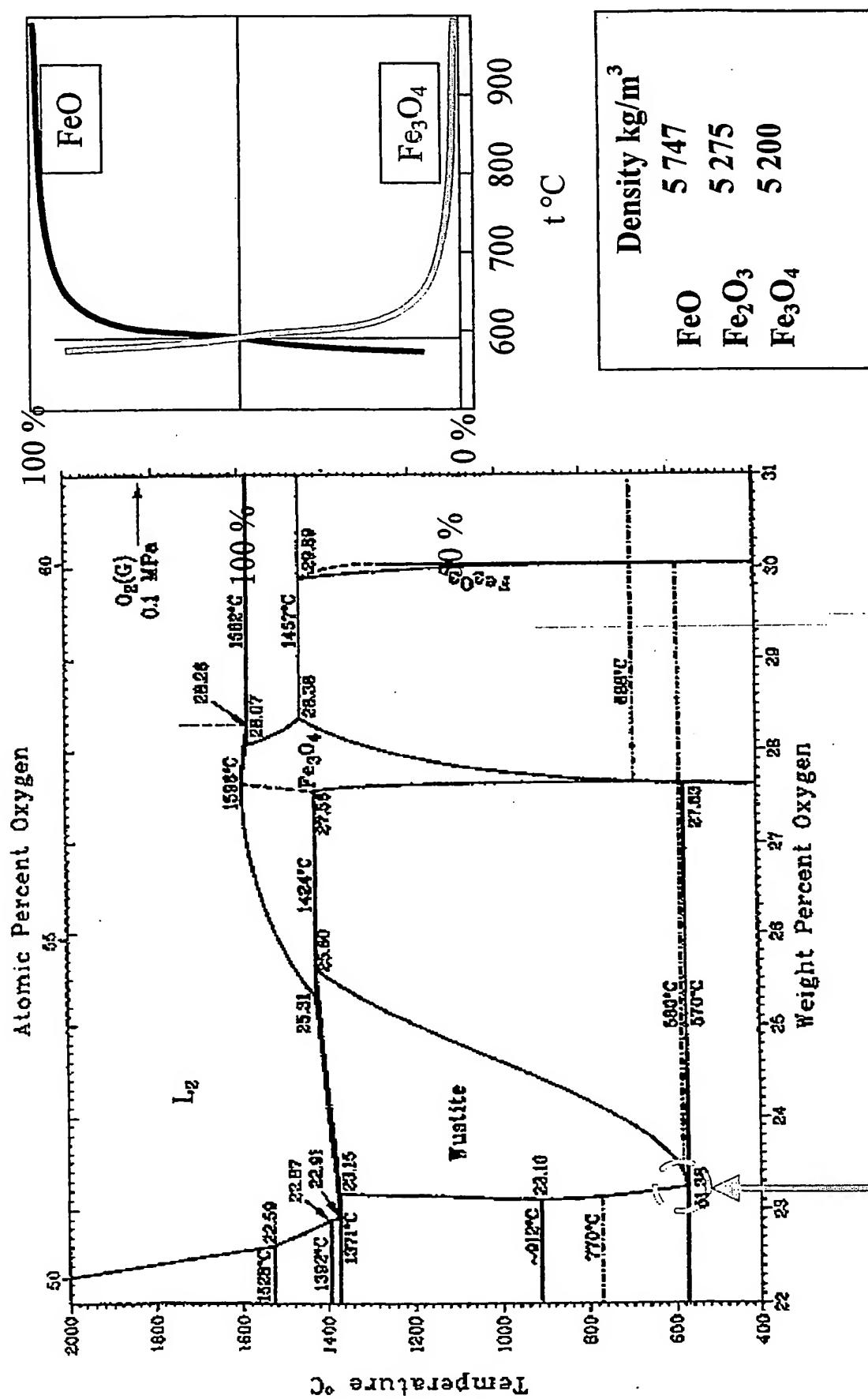
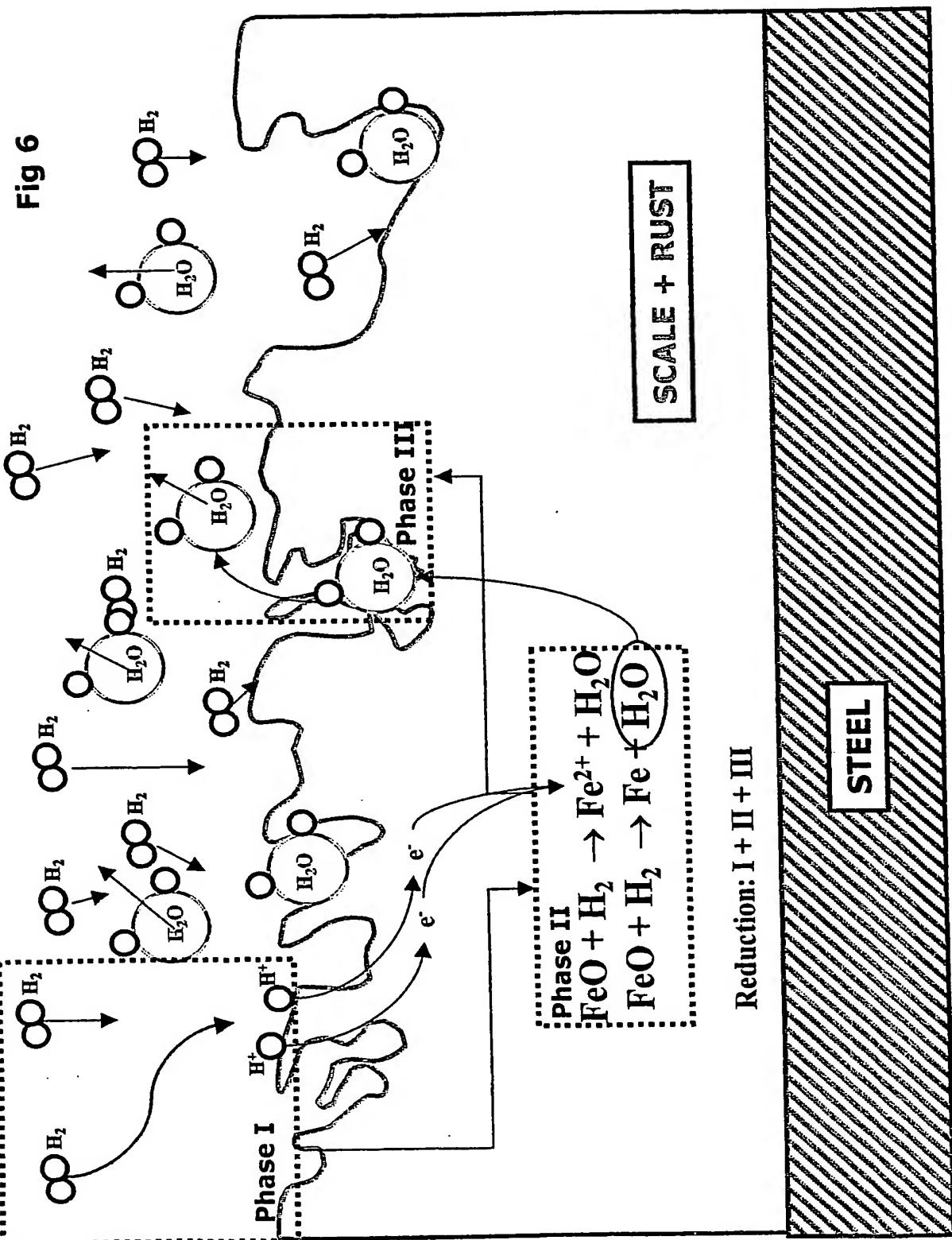


FIG. 5

 $\text{FeO} \longleftrightarrow \text{Fe}_3\text{O}_4 + \text{Fe}$



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Fig 7

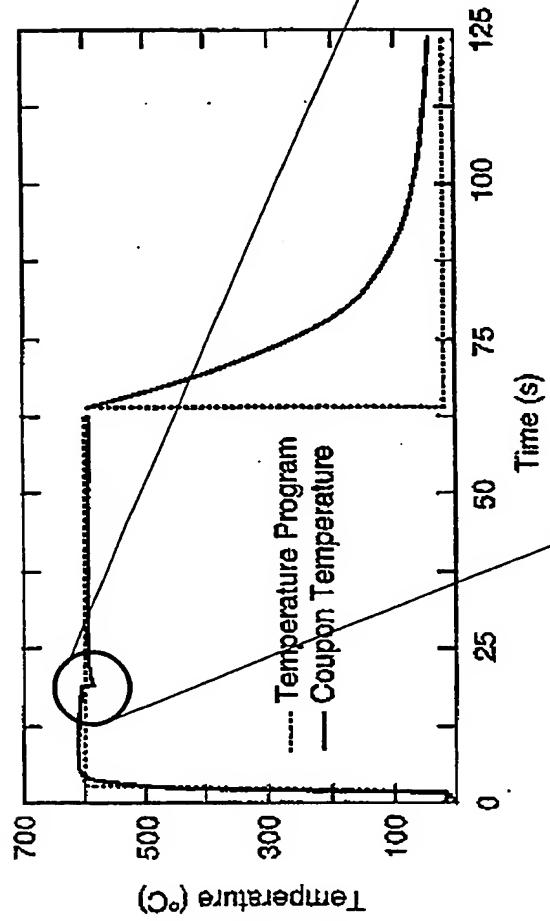
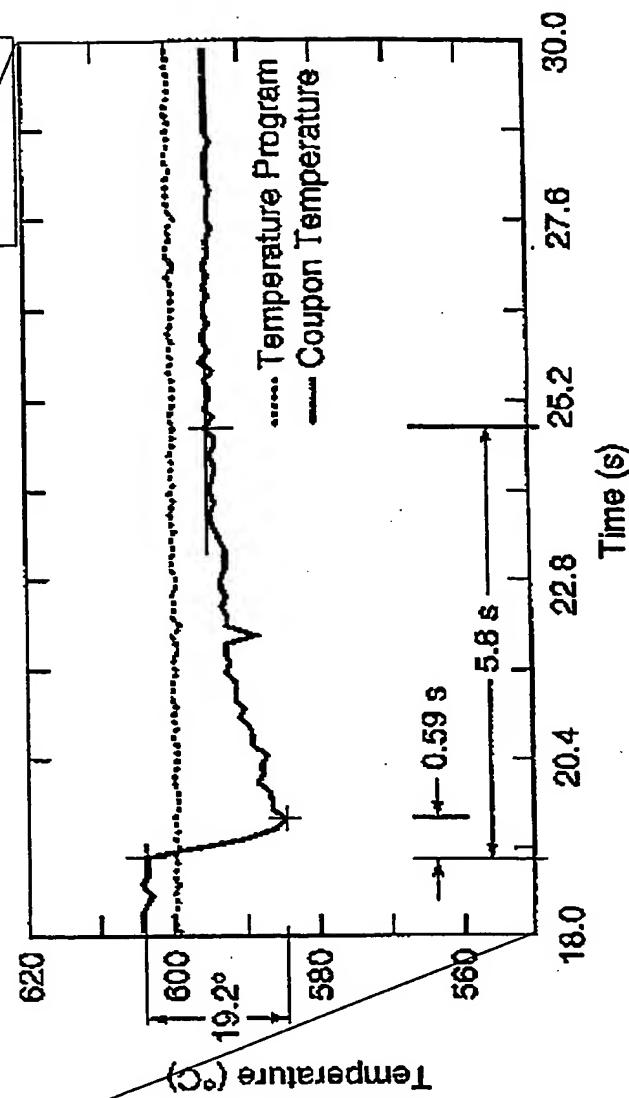
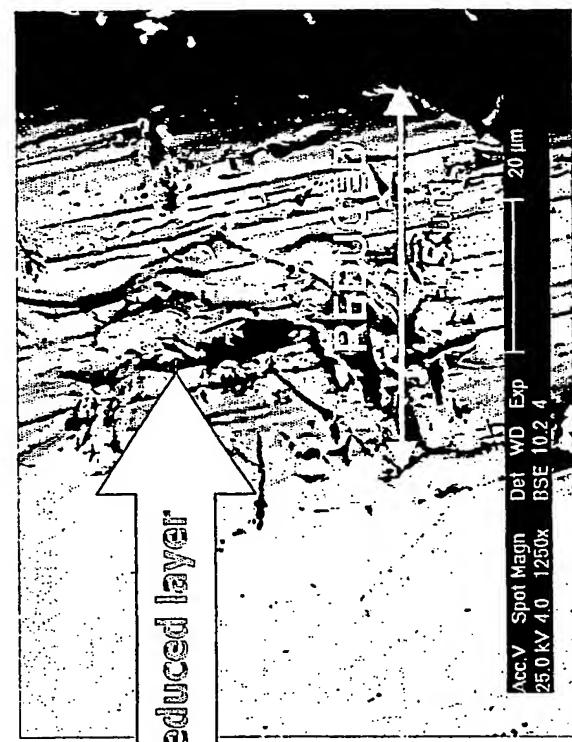


Fig 8

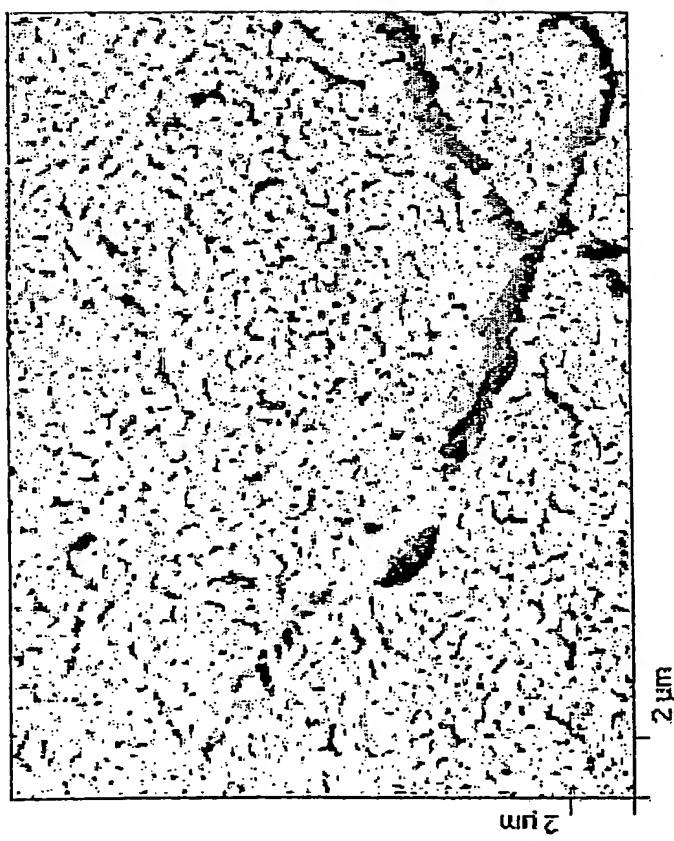
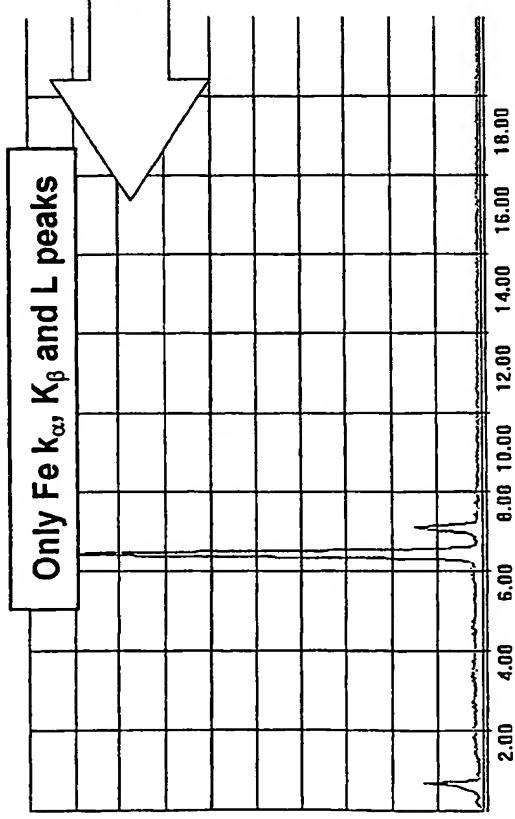


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F:\RAPPTEC\IMATERI\1\IDANIELI\46B.spc

Label A:

**Fig. 9**

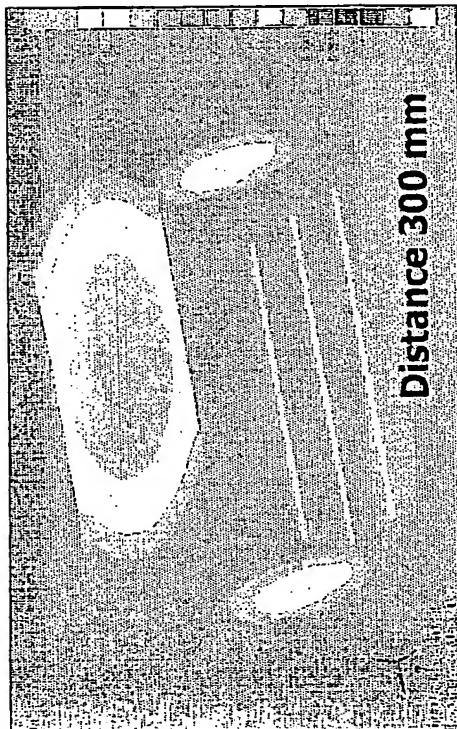
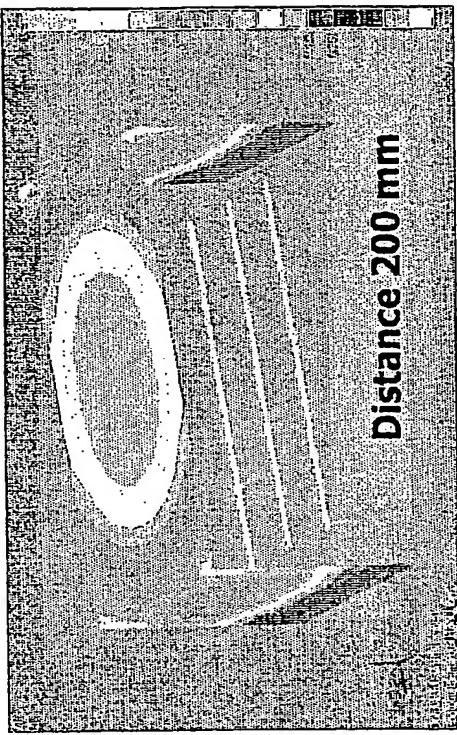


FIG. 10

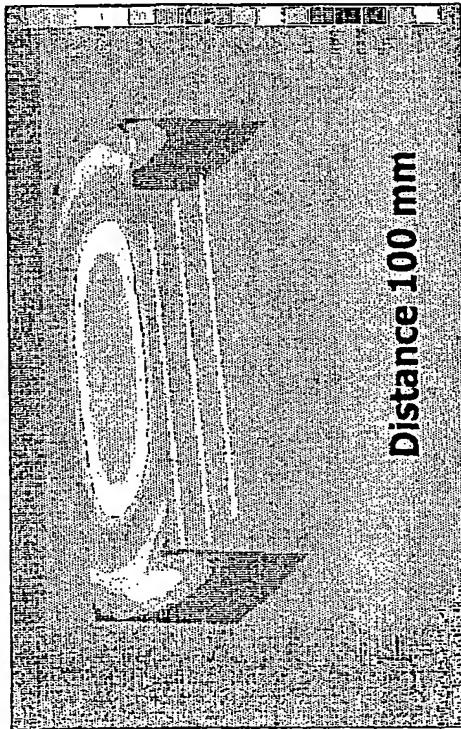
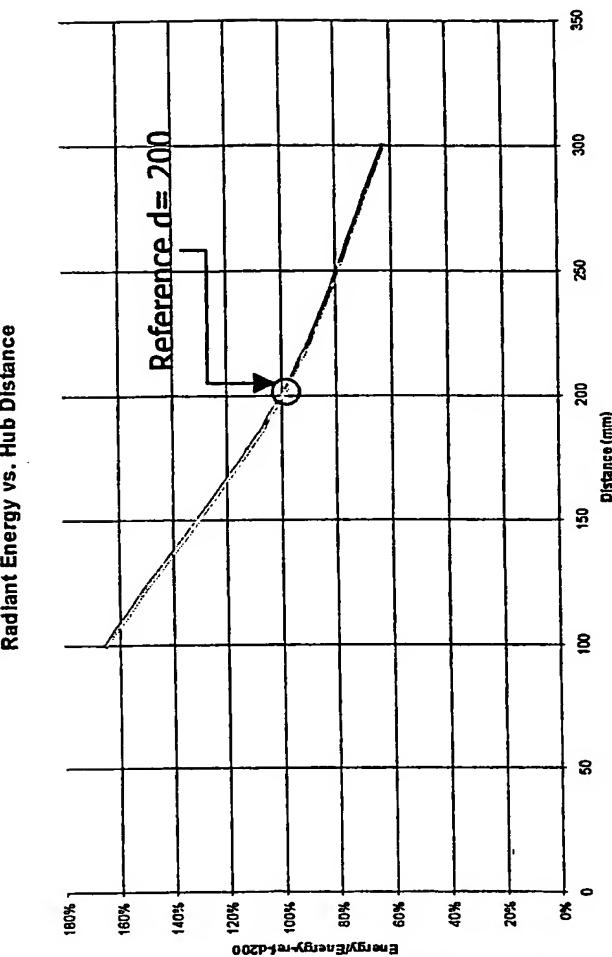
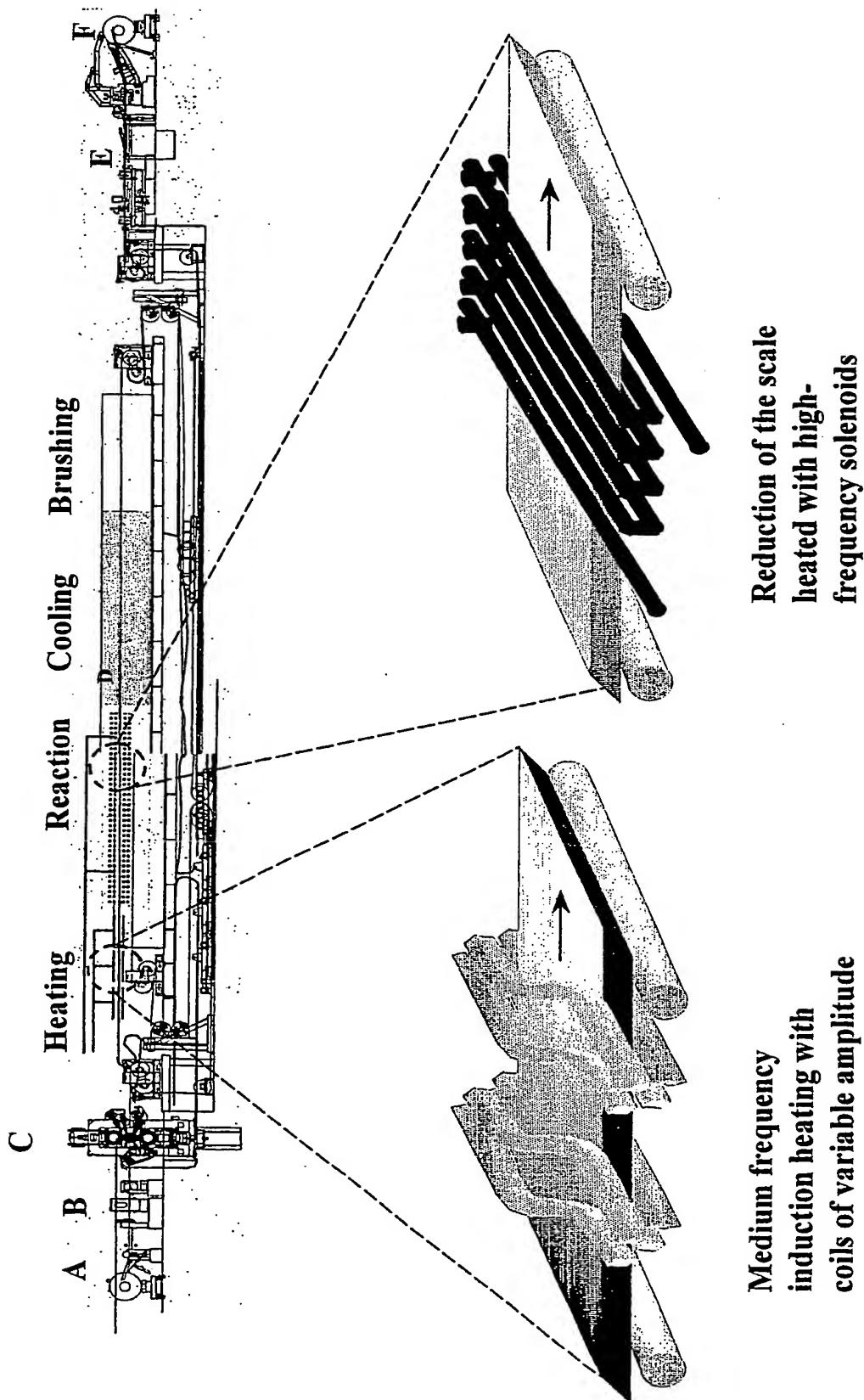
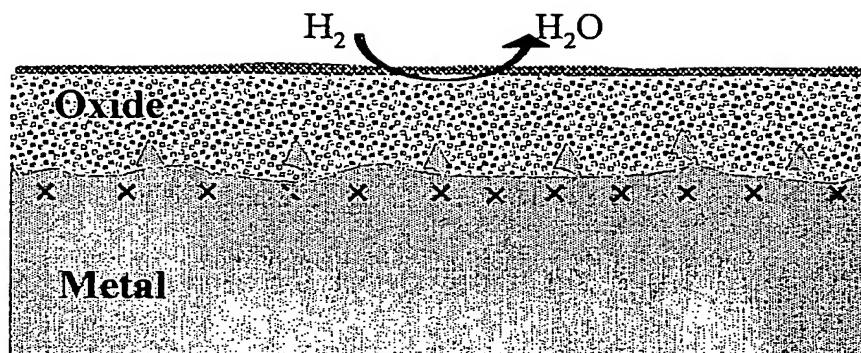
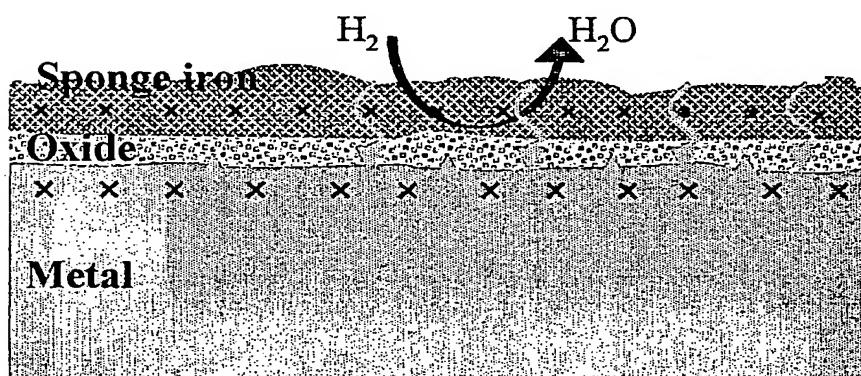
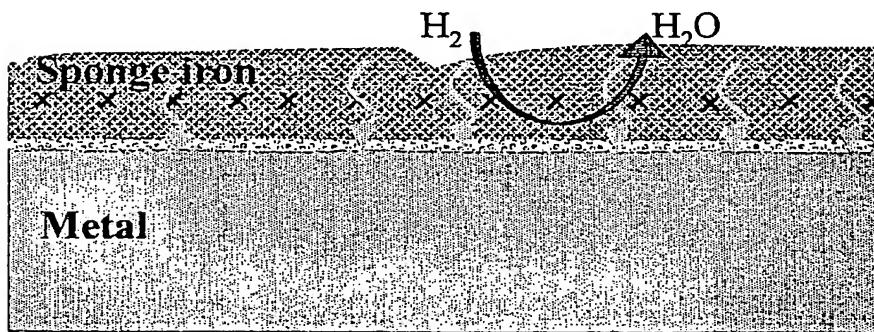


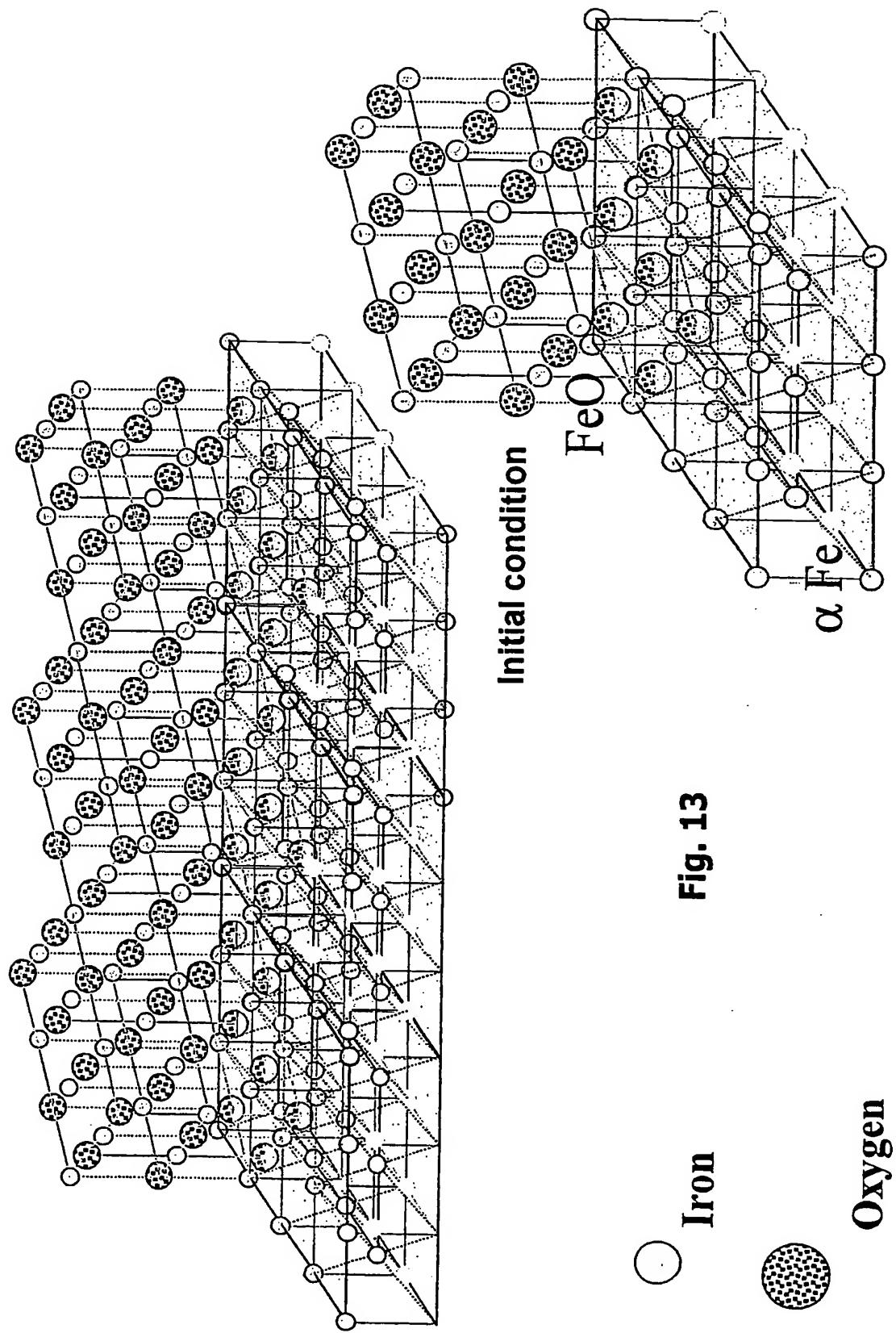
FIG. 11.

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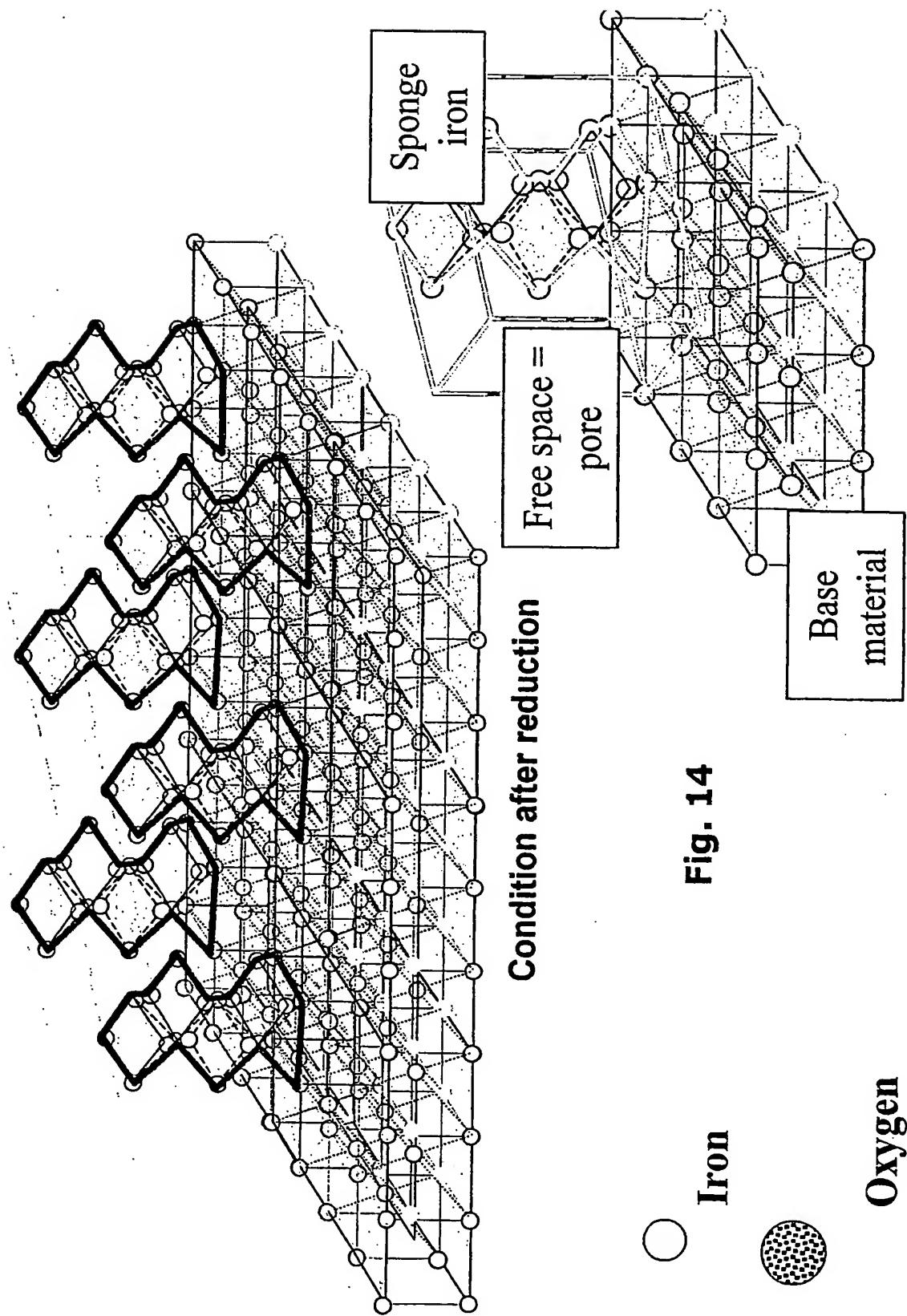
Fig. 12**STEP I : reduction of the outer oxide layer with heating from the metal****STEP II: reduction of the oxide with heating from the metal and from the sponge iron****STEP III: final reduction of the oxide with heating from the sponge iron**

Thermal flow
 x Current lines

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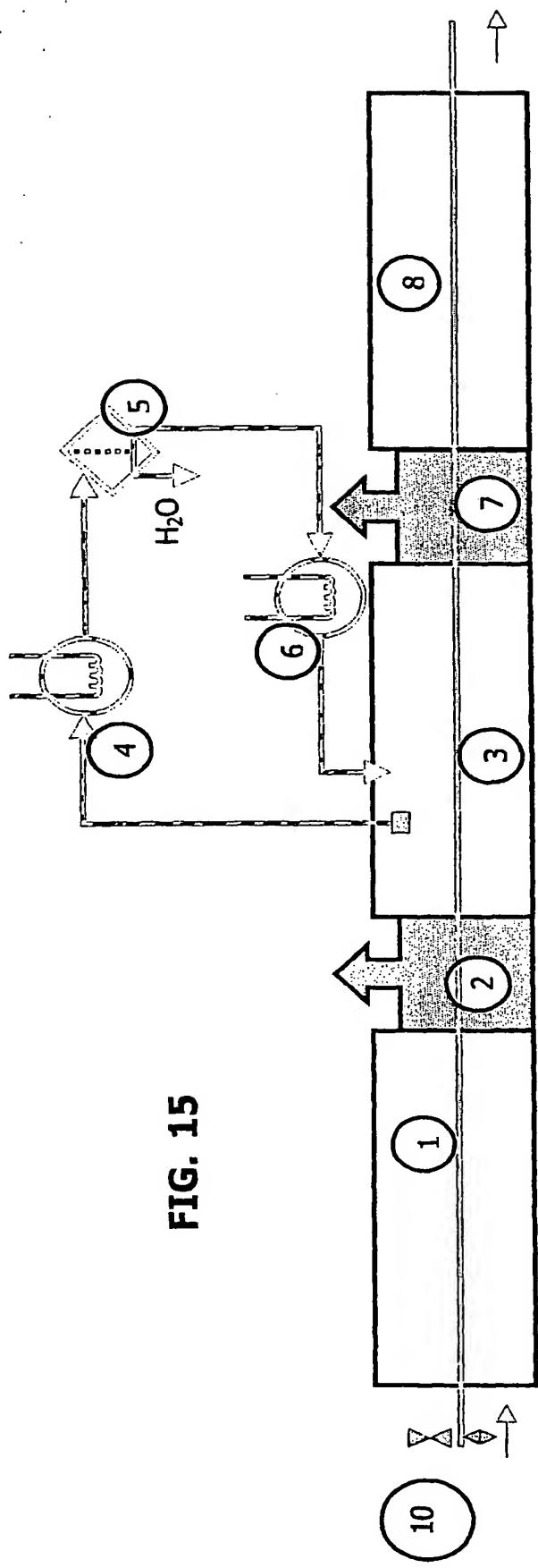


FIG. 15

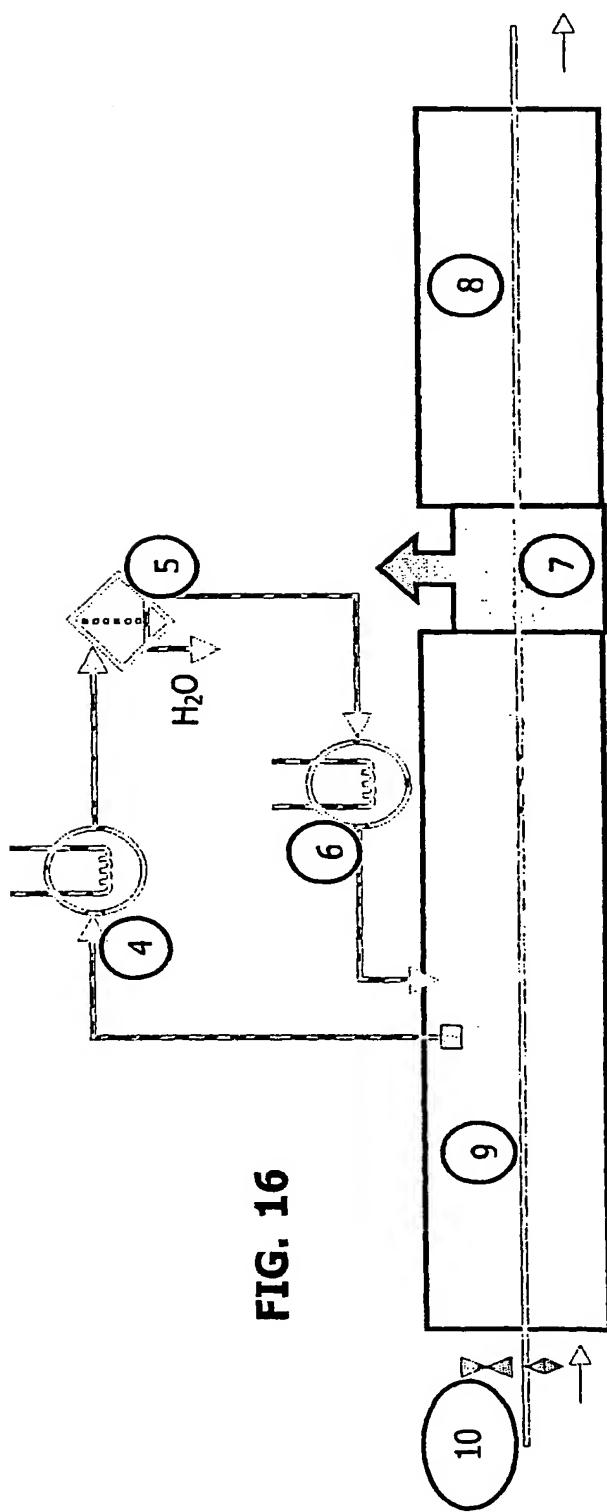
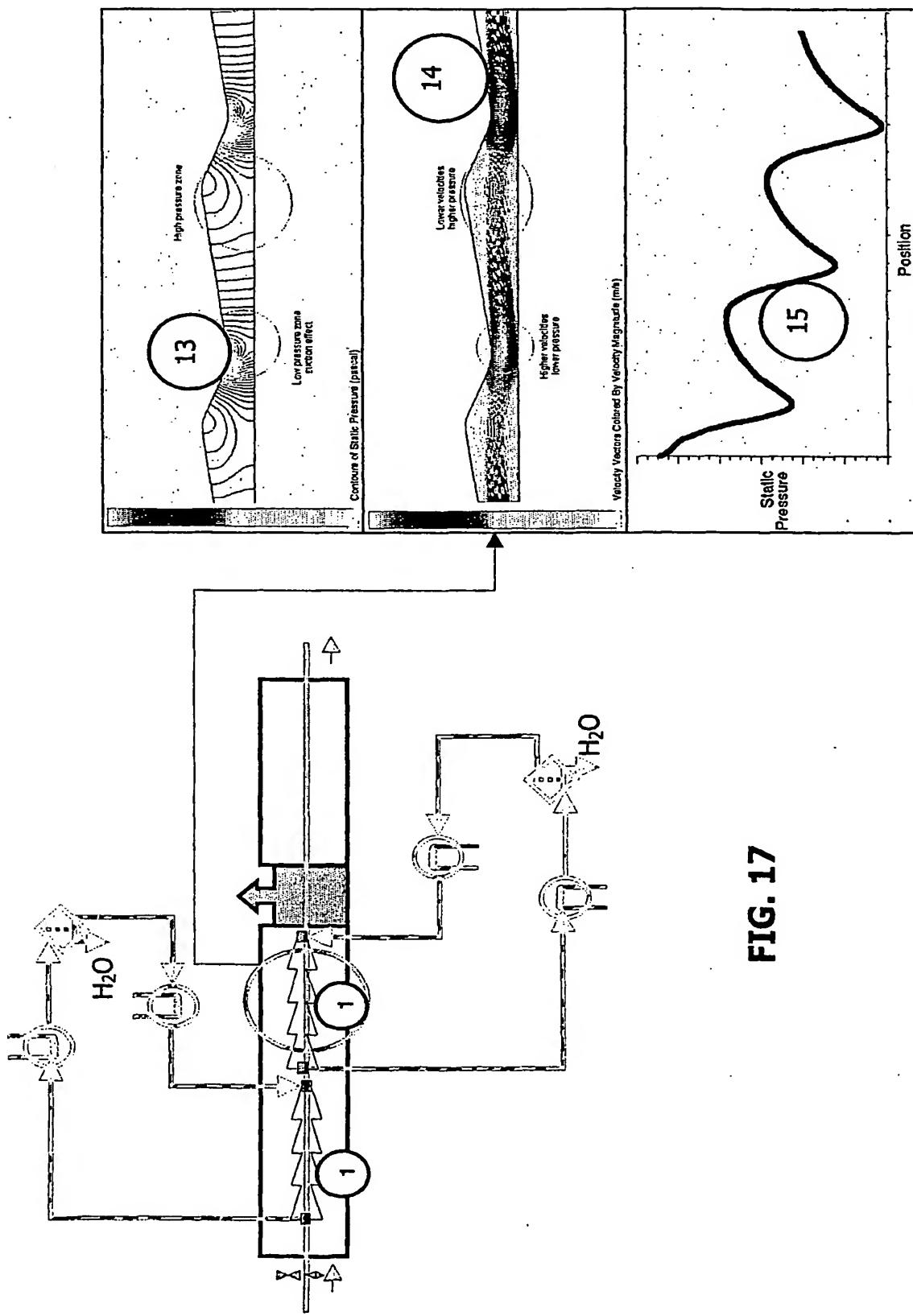
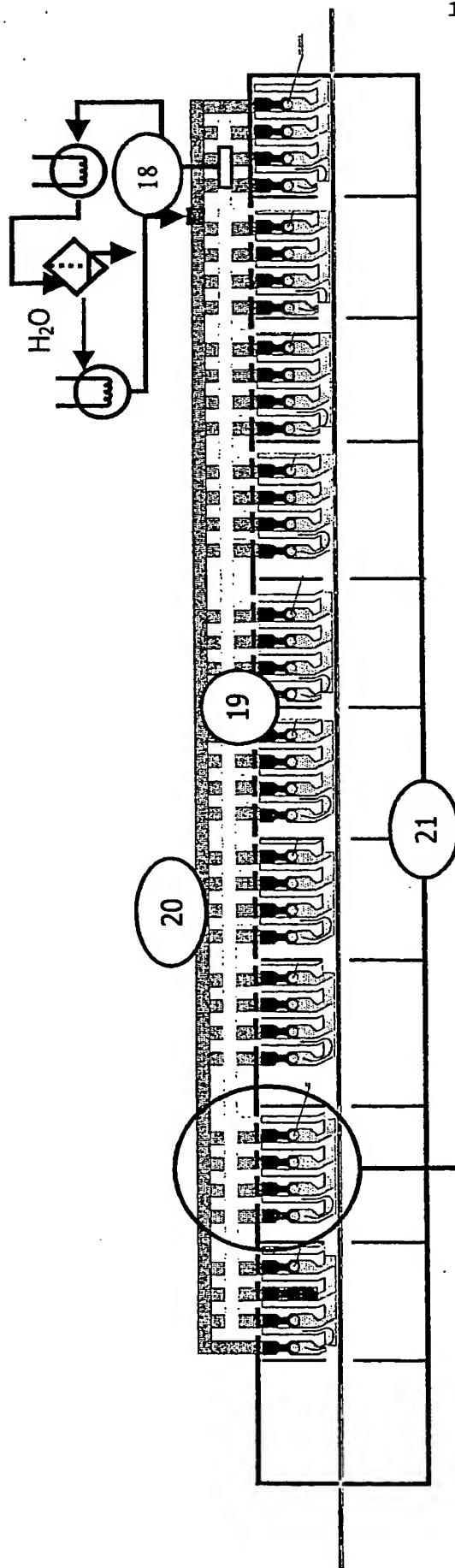


FIG. 16

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Convection as a main heat transfer mechanisms

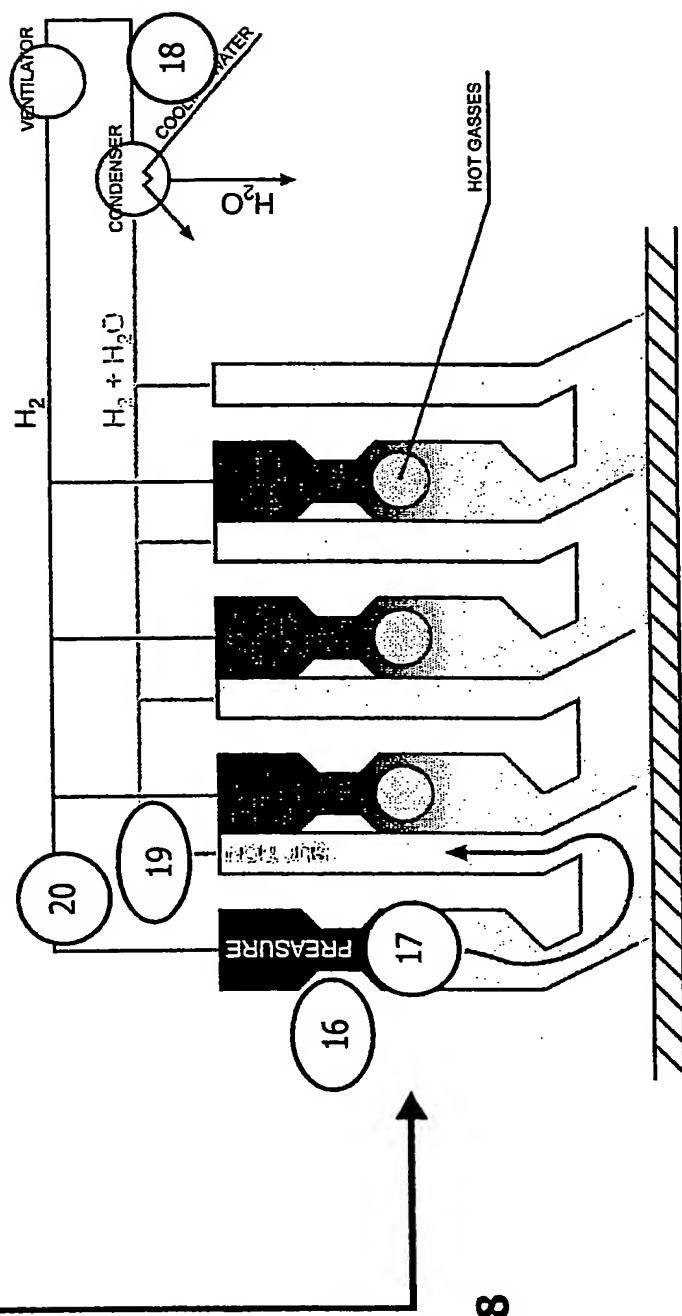


FIG. 18

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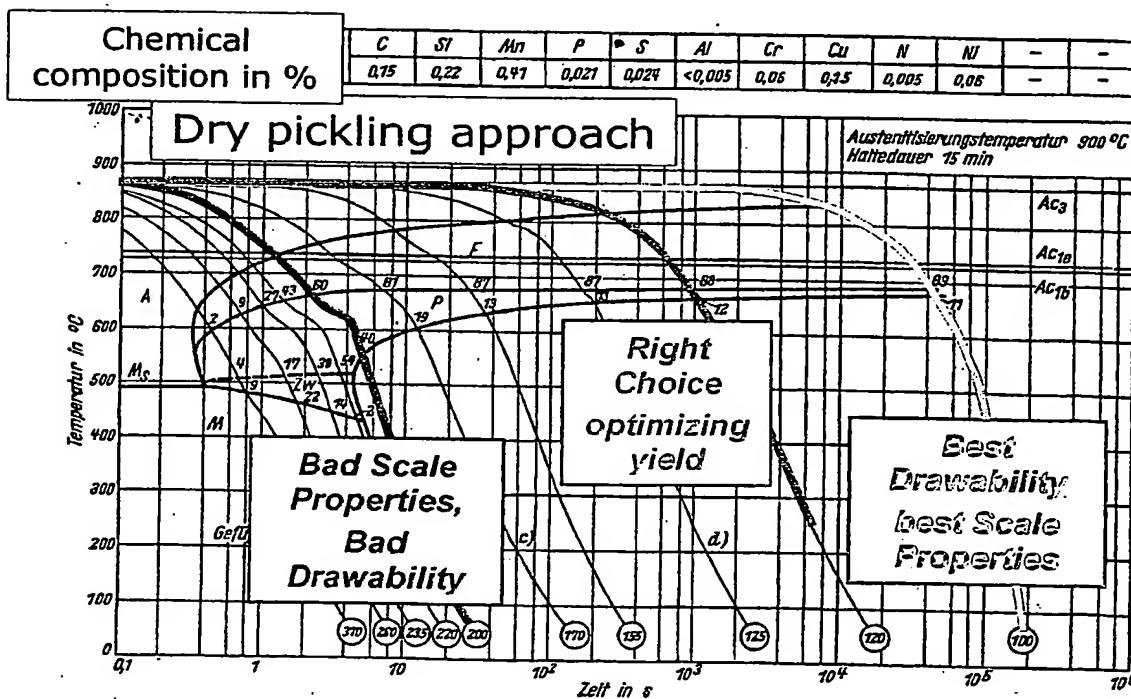
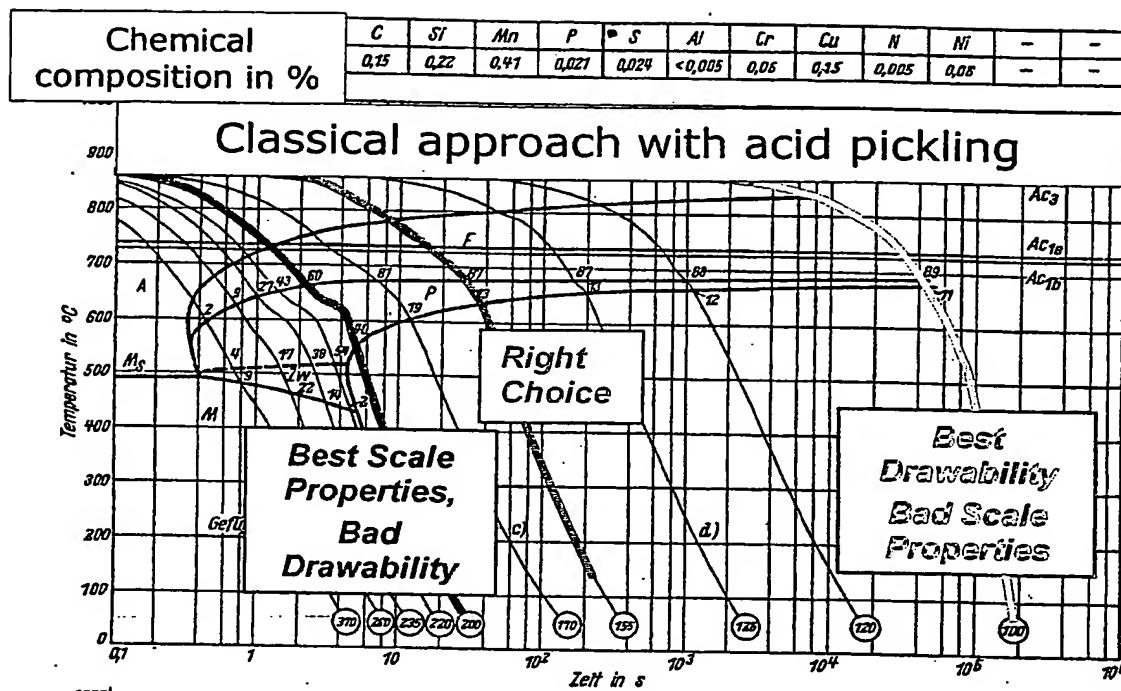
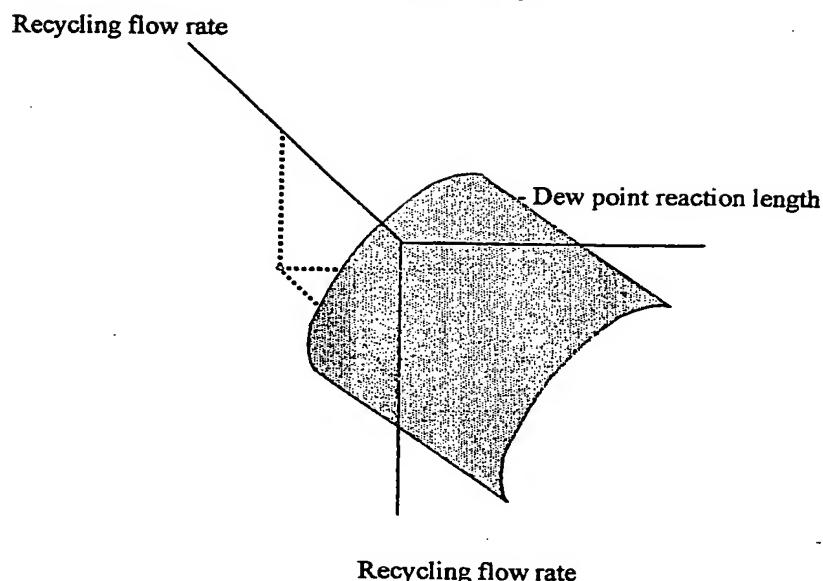


FIG. 19

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FIG. 20



Recycling flow rate with fixed dew point

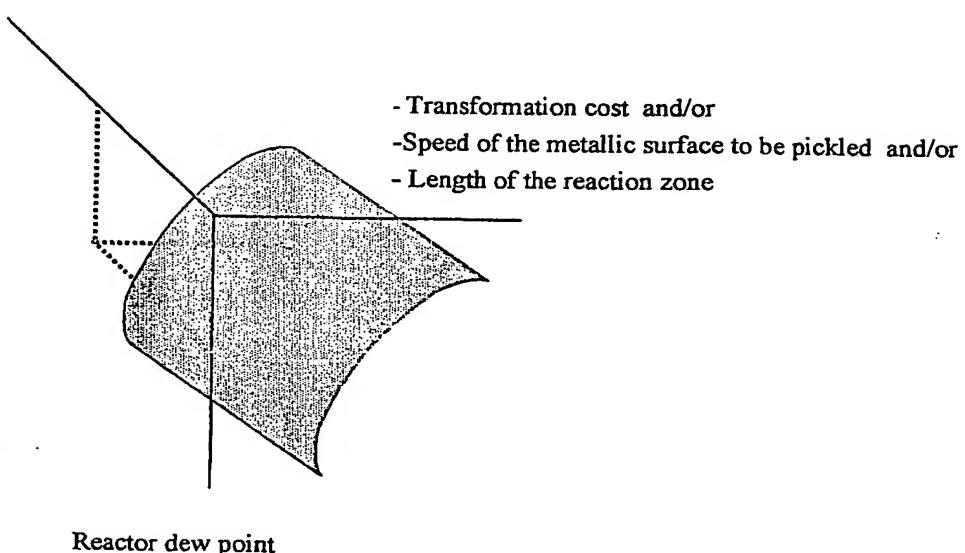
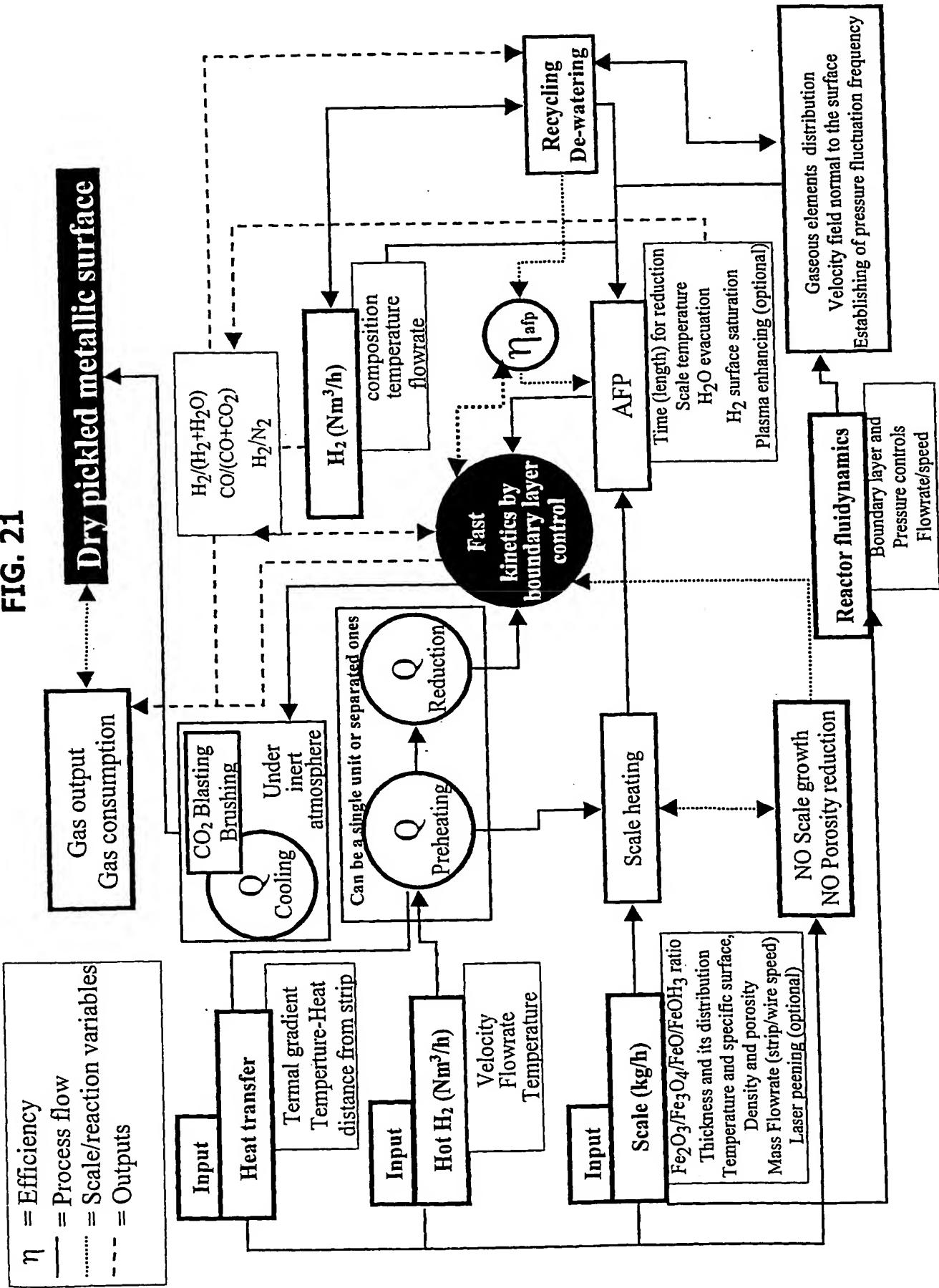
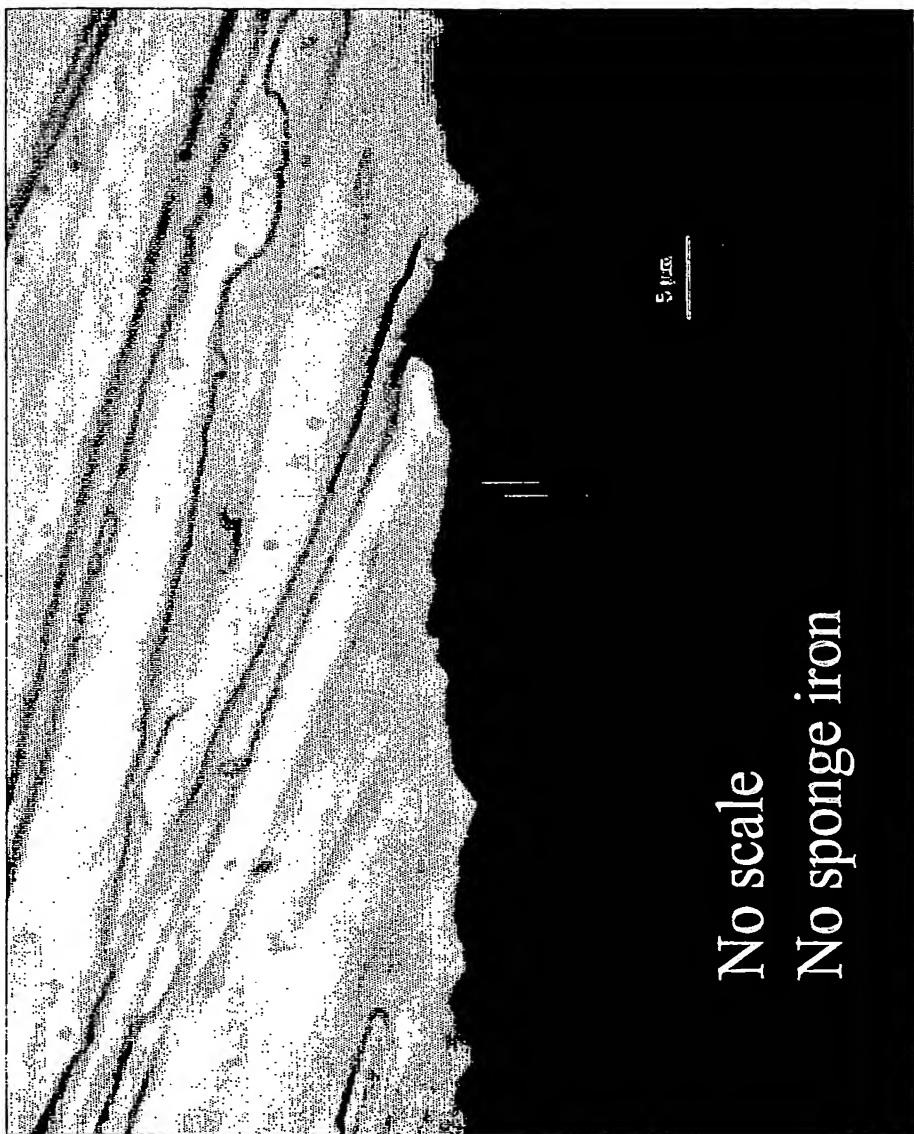


FIG. 21



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No scale
No sponge iron

Fig. 22

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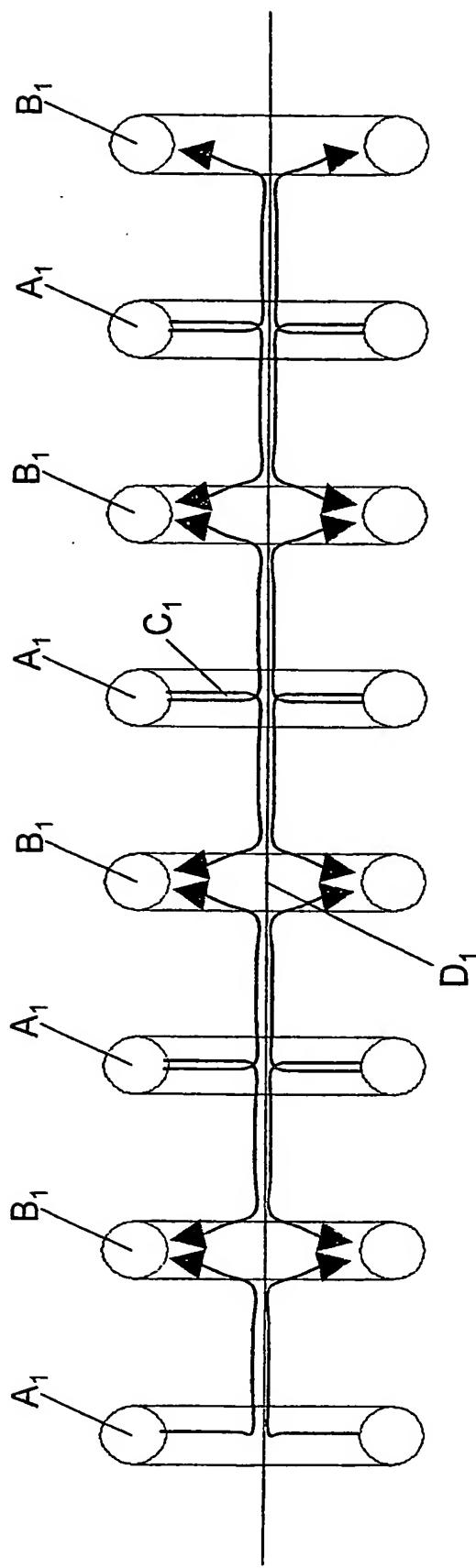


FIG. 23

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